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TECH CENTER 1600/2900

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P#12

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RAW SEQUENCE LISTING *L97*   DATE: 07/25/2002
PATENT APPLICATION: US/09/~~647~~,340A   TIME: 08:40:21

Input Set : **A:\501d4.app**
Output Set: **N:\CRF3\07252002\I647340A.raw**

p.6

RECEIVED AUG 1 5 2002 TECH CENTER 1600/2900

```
         4 <110> APPLICANT: Brunkow, Mary E.
         5        Jeffery, Eric W.
         6        Hjerrild, Kathryn A.
         7        Ramsdell, Fred
        11 <120> TITLE OF INVENTION: IDENTIFICATION OF THE GENE CAUSING THE
        12        MOUSE SCURFY PHENOTYPE AND ITS HUMAN ORTHOLOG
        15 <130> FILE REFERENCE: 240083.501D4
C-->    17 <140> CURRENT APPLICATION NUMBER: US/09/647,340A
        18 <141> CURRENT FILING DATE: 2000-10-24
        20 <160> NUMBER OF SEQ ID NOS: 14
        22 <170> SOFTWARE: FastSEQ for Windows Version 3.0
        24 <210> SEQ ID NO: 1
        25 <211> LENGTH: 2160
        26 <212> TYPE: DNA
        27 <213> ORGANISM: Mus musculus
        29 <400> SEQUENCE: 1
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        31  ccagacacag ctctgctggc gaaagtggca gagaggtatt gagggtgggt gtcaggagcc    120
        32  caccagtaca gctggaaaca cccagccact ccagctcccg gcaacttctc ctgactctgc    180
        33  cttcagacga gacttggaag acagtcacat ctcagcagct cctctgccgt tatccagcct    240
        34  gcctctgaca agaacccaat gcccaaccct aggccagcca agcctatggc tccttccttg    300
        35  gcccttggcc catccccagg agtcttgcca agctggaaga ctgcacccaa gggctcagaa    360
        36  cttctaggga ccaggggctc tggggggaccc ttccaaggtc gggacctgcg aagtggggcc    420
        37  cacacctctt cttccttgaa cccccctgcca ccatcccagc tgcagctgcc tacagtgccc    480
        38  ctagtcatgg tggcaccgtc tggggcccga ctaggtccct caccccacct acaggccctt    540
        39  ctccaggaca gaccacactt catgcatcag ctctccactg tggatgccca tgcccagacc    600
        40  cctgtgctcc aagtgcgtcc actggacaac ccagccatga tcagcctccc accaccttct    660
        41  gctgccactg gggtcttctc cctcaaggcc cggcctggcc tgccacctgg gatcaatgtg    720
        42  gccagtctgg aatgggtgtc cagggagcca gctctactct gcaccttccc acgctcgggt    780
        43  acacccagga aagacagcaa ccttttggct gcaccccaag gatcctaccc actgctggca    840
        44  aatggagtct gcaagtggcc tggttgtgag aaggtcttcg aggagccaga agagtttctc    900
        45  aagcactgcc aagcagatca tctcctggat gagaaaggca aggcccagtg cctcctccag    960
        46  agagaagtgg tgcagtctct ggagcagcag ctggagctgg aaaaggagaa gctgggagct   1020
        47  atgcaggccc acctggctgg gaagatggcg ctggccaagg ctccatctgt ggcctcaatg   1080
        48  gacaagagct cttgctgcat cgtagccacc agtactcagg gcagtgtgct cccggcctgg   1140
        49  tctgctcctc gggaggctcc agacggcggc ctgtttgcag tgcggaggca cctctgggga   1200
        50  agccatggca atagttcctt cccagagttc ttccacaaca tggactactt caagtaccac   1260
        51  aatatgcgac cccctttcac ctatgccacc cttatccgat gggccatcct ggaagccccg   1320
        52  gagaggcaga ggacactcaa tgaaatctac cattggttta ctcgcatgtt cgcctacttc   1380
        53  agaaaccacc ccgccacctg gaagaatgcc atccgccaca acctgagcct gcacaagtgc   1440
        54  tttgtgcgag tggagagcga gaagggagca gtgtggaccg tagatgaatt tgagtttcgc   1500
        55  aagaagagga gccaacgccc caacaagtgc tccaatccct gcccttgacc tcaaaaccaa   1560
        56  gaaaaggtgg gcgggggagg gggccaaaac catgagactg aggctgtggg ggcaaggagg.  1620
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RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/647,340A

DATE: 07/25/2002
TIME: 08:40:21

Input Set : A:\501d4.app
Output Set: N:\CRF3\07252002\I647340A.raw

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57  caagtcctac gtgtacctat ggaaaccggg cgatgatgtg cctgctatca gggcctctgc    1680
58  tccctatcta gctgccctcc tagatcatat catctgcctt acagctgaga ggggtgccaa    1740
59  tcccagccta gcccctagtt ccaacctagc cccaagatga actttccagt caaagagccc    1800
60  tcacaaccag ctatacatat ctgccttggc cactgccaag cagaaagatg acagacacca    1860
61  tcctaatatt tactcaaccc aaaccctaaa acatgaagag cctgccttgg tacattcgtg    1920
62  aactttcaaa gttagtcatg cagtcacaca tgactgcagt cctactgact cacaccccaa    1980
63  agcactcacc cacaacatct ggaaccacgg gcactatcac acataggtgt atatacagac    2040
64  ccttacacag caacagcact ggaaccttca caattacatc cccccaaacc acacaggcat    2100
65  aactgatcat acgcagcctc aagcaatgcc caaaatacaa gtcagacaca gcttgtcaga    2160
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68  <211> LENGTH: 429
69  <212> TYPE: PRT
70  <213> ORGANISM: Mus musculus
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75  Gly Pro Ser Pro Gly Val Leu Pro Ser Trp Lys Thr Ala Pro Lys Gly
76              20                  25                  30
77  Ser Glu Leu Leu Gly Thr Arg Gly Ser Gly Gly Pro Phe Gln Gly Arg
78          35                  40                  45
79  Asp Leu Arg Ser Gly Ala His Thr Ser Ser Ser Leu Asn Pro Leu Pro
80      50                  55                  60
81  Pro Ser Gln Leu Gln Leu Pro Thr Val Pro Leu Val Met Val Ala Pro
82  65                  70                  75                  80
83  Ser Gly Ala Arg Leu Gly Pro Ser Pro His Leu Gln Ala Leu Leu Gln
84              85                  90                  95
85  Asp Arg Pro His Phe Met His Gln Leu Ser Thr Val Asp Ala His Ala
86              100                 105                 110
87  Gln Thr Pro Val Leu Gln Val Arg Pro Leu Asp Asn Pro Ala Met Ile
88          115                 120                 125
89  Ser Leu Pro Pro Pro Ser Ala Ala Thr Gly Val Phe Ser Leu Lys Ala
90          130                 135                 140
91  Arg Pro Gly Leu Pro Pro Gly Ile Asn Val Ala Ser Leu Glu Trp Val
92  145                 150                 155                 160
93  Ser Arg Glu Pro Ala Leu Leu Cys Thr Phe Pro Arg Ser Gly Thr Pro
94              165                 170                 175
95  Arg Lys Asp Ser Asn Leu Leu Ala Ala Pro Gln Gly Ser Tyr Pro Leu
96              180                 185                 190
97  Leu Ala Asn Gly Val Cys Lys Trp Pro Gly Cys Glu Lys Val Phe Glu
98          195                 200                 205
99  Glu Pro Glu Glu Phe Leu Lys His Cys Gln Ala Asp His Leu Leu Asp
100     210                 215                 220
101 Glu Lys Gly Lys Ala Gln Cys Leu Leu Gln Arg Glu Val Val Gln Ser
102 225                 230                 235                 240
103 Leu Glu Gln Gln Leu Glu Leu Glu Lys Glu Lys Leu Gly Ala Met Gln
104                 245                 250                 255
105 Ala His Leu Ala Gly Lys Met Ala Leu Ala Lys Ala Pro Ser Val Ala
106             260                 265                 270
107 Ser Met Asp Lys Ser Ser Cys Cys Ile Val Ala Thr Ser Thr Gln Gly
```

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108           275                280                285
109  Ser Val Leu Pro Ala Trp Ser Ala Pro Arg Glu Ala Pro Asp Gly Gly
110      290                295                300
111  Leu Phe Ala Val Arg Arg His Leu Trp Gly Ser His Gly Asn Ser Ser
112  305                310                315                320
113  Phe Pro Glu Phe Phe His Asn Met Asp Tyr Phe Lys Tyr His Asn Met
114              325/               330                335
115  Arg Pro Pro Phe Thr Tyr Ala Thr Leu Ile Arg Trp Ala Ile Leu Glu
116              340                345                350
117  Ala Pro Glu Arg Gln Arg Thr Leu Asn Glu Ile Tyr His Trp Phe Thr
118          355                360                365
119  Arg Met Phe Ala Tyr Phe Arg Asn His Pro Ala Thr Trp Lys Asn Ala
120      370                375                380
121  Ile Arg His Asn Leu Ser Leu His Lys Cys Phe Val Arg Val Glu Ser
122  385                390                395                400
123  Glu Lys Gly Ala Val Trp Thr Val Asp Glu Phe Glu Phe Arg Lys Lys
124              405                410                415
125  Arg Ser Gln Arg Pro Asn Lys Cys Ser Asn Pro Cys Pro
126          420                425
128  <210> SEQ ID NO: 3
129  <211> LENGTH: 1869
130  <212> TYPE: DNA
131  <213> ORGANISM: Homo sapien
133  <400> SEQUENCE: 3
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135  cgtacagcgt ggttttttctt ctcggtataa aagcaaagtt gttttttgata cgtgacagtt     120
136  tcccacaagc caggctgatc cttttctgtc agtccacttc accaagcctg cccttggaca     180
137  aggacccgat gcccaacccc aggcctggca agccctcggc cccttccttg gcccttggcc     240
138  catccccagg agcctcgccc agctggaggg ctgcacccaa agcctcagac ctgctggggg     300
139  cccgggccc aggggaacc ttccagggcc gagatcttcg aggcggggcc catgcctcct     360
140  cttcttcctt gaaccccatg ccaccatcgc agctgcagct gcccacactg cccctagtca     420
141  tggtggcacc ctccggggca cggctgggcc ccttgcccca cttacaggca ctcctccagg     480
142  acaggccaca tttcatgcac cagctctcaa cggtggatgc ccacgcccgg accctgtgc     540
143  tgcaggtgca cccctggag agcccagcca tgatcagcct cacaccaccc accaccgcca     600
144  ctggggtctt ctccctcaag gcccggcctg gcctcccacc tgggatcaac gtggccagcc     660
145  tggaatgggt gtccagggag ccggcactgc tctgcacctt cccaaatccc agtgcaccca     720
146  ggaaggacag caccctttcg gctgtgcccc agagctccta cccactgctg gcaaatggtg     780
147  tctgcaagtg gcccggatgt gagaaggtct tcgaagagcc agaggacttc ctcaagcact     840
148  gccaggcgga ccatcttctg gatgagaagg gcagggcaca atgtctcctc cagagagaga     900
149  tggtacagtc tctggagcag cagctggtgc tggagaagga gaagctgagt gccatgcagg     960
150  cccacctggc tgggaaaatg gcactgacca aggcttcatc tgtggcatca tccgacaagg    1020
151  gctcctgctg catcgtagct gctggcagcc aaggccctgt cgtcccagcc tggtctggcc    1080
152  cccgggaggc ccctgacagc ctgtttgctg tccggaggca cctgtggggt agccatggaa    1140
153  acagcacatt cccagagttc ctccacaaca tggactactt caagttccac aacatgcgac    1200
154  ccccttttcac ctacgccacg ctcatccgct gggccatcct ggaggctcca gagaagcagc    1260
155  ggacactcaa tgagatctac cactggttca cacgcatgtt tgccttcttc agaaaccatc    1320
156  ctgccacctg gaagaacgcc atccgccaca acctgagtct gcacaagtgc tttgtgcggg    1380
157  tggagagcga gaaggggggct gtgtggaccg tggatgagct ggagttccgc aagaaacgga    1440
158  gccagaggcc cagcaggtgt tccaaccctta cacctggccc ctgacctcaa gatcaaggaa    1500
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Input Set : **A:\501d4.app**
Output Set: **N:\CRF3\07252002\I647340A.raw**

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159  aggaggatgg acgaacaggg gccaaactgg tgggaggcag aggtggtggg ggcagggatg  1560
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161  gggcccctgt tcccccgctg gcagccaccc cctcccccat catatccttt gccccaaggc  1680
162  tgctcagagg ggccccggtc ctggccccag cccccacctc cgccccagac acacccccca  1740
163  gtcgagccct gcagccaaac agagccttca caaccagcca cacagagcct gcctcagctg  1800
164  ctcgcacaga ttacttcagg gctggaaaag tcacacagac acacaaaatg tcacaatcct  1860
165  gtccctcac                                                          1869
167  <210> SEQ ID NO: 4
168  <211> LENGTH: 431
169  <212> TYPE: PRT
170  <213> ORGANISM: Homo sapien
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173  Met Pro Asn Pro Arg Pro Gly Lys Pro Ser Ala Pro Ser Leu Ala Leu
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175  Gly Pro Ser Pro Gly Ala Ser Pro Ser Trp Arg Ala Ala Pro Lys Ala
176              20                  25                  30
177  Ser Asp Leu Leu Gly Ala Arg Gly Pro Gly Gly Thr Phe Gln Gly Arg
178          35                  40                  45
179  Asp Leu Arg Gly Gly Ala His Ala Ser Ser Ser Ser Leu Asn Pro Met
180      50                  55                  60
181  Pro Pro Ser Gln Leu Gln Leu Pro Thr Leu Pro Leu Val Met Val Ala
182  65                  70                  75                  80
183  Pro Ser Gly Ala Arg Leu Gly Pro Leu Pro His Leu Gln Ala Leu Leu
184              85                  90                  95
185  Gln Asp Arg Pro His Phe Met His Gln Leu Ser Thr Val Asp Ala His
186              100                 105                 110
187  Ala Arg Thr Pro Val Leu Gln Val His Pro Leu Glu Ser Pro Ala Met
188              115                 120                 125
189  Ile Ser Leu Thr Pro Pro Thr Thr Ala Thr Gly Val Phe Ser Leu Lys
190      130                 135                 140
191  Ala Arg Pro Gly Leu Pro Pro Gly Ile Asn Val Ala Ser Leu Glu Trp
192  145                 150                 155                 160
193  Val Ser Arg Glu Pro Ala Leu Leu Cys Thr Phe Pro Asn Pro Ser Ala
194              165                 170                 175
195  Pro Arg Lys Asp Ser Thr Leu Ser Ala Val Pro Gln Ser Ser Tyr Pro
196              180                 185                 190
197  Leu Leu Ala Asn Gly Val Cys Lys Trp Pro Gly Cys Glu Lys Val Phe
198              195                 200                 205
199  Glu Glu Pro Glu Asp Phe Leu Lys His Cys Gln Ala Asp His Leu Leu
200      210                 215                 220
201  Asp Glu Lys Gly Arg Ala Gln Cys Leu Leu Gln Arg Glu Met Val Gln
202  225                 230                 235                 240
203  Ser Leu Glu Gln Gln Leu Val Leu Glu Lys Glu Lys Leu Ser Ala Met
204              245                 250                 255
205  Gln Ala His Leu Ala Gly Lys Met Ala Leu Thr Lys Ala Ser Ser Val
206              260                 265                 270
207  Ala Ser Ser Asp Lys Gly Ser Cys Cys Ile Val Ala Ala Gly Ser Gln
208              275                 280                 285
209  Gly Pro Val Val Pro Ala Trp Ser Gly Pro Arg Glu Ala Pro Asp Ser
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RAW SEQUENCE LISTING   DATE: 07/25/2002
PATENT APPLICATION: US/09/647,340A   TIME: 08:40:21

Input Set : A:\501d4.app
Output Set: N:\CRF3\07252002\I647340A.raw

```
210      290                  295                  300
211 Leu Phe Ala Val Arg Arg His Leu Trp Gly Ser His Gly Asn Ser Thr
212 305                  310                  315                  320
213 Phe Pro Glu Phe Leu His Asn Met Asp Tyr Phe Lys Phe His Asn Met
214              325                  330                  335
215 Arg Pro Pro Phe Thr Tyr Ala Thr Leu Ile Arg Trp Ala Ile Leu Glu
216              340                  345                  350
217 Ala Pro Glu Lys Gln Arg Thr Leu Asn Glu Ile Tyr His Trp Phe Thr
218          355                  360                  365
219 Arg Met Phe Ala Phe Phe Arg Asn His Pro Ala Thr Trp Lys Asn Ala
220      370                  375                  380
221 Ile Arg His Asn Leu Ser Leu His Lys Cys Phe Val Arg Val Glu Ser
222 385                  390                  395                  400
223 Glu Lys Gly Ala Val Trp Thr Val Asp Glu Leu Glu Phe Arg Lys Lys
224              405                  410                  415
225 Arg Ser Gln Arg Pro Ser Arg Cys Ser Asn Pro Thr Pro Gly Pro
226          420                  425                  430
228 <210> SEQ ID NO: 5
229 <211> LENGTH: 23
230 <212> TYPE: DNA
231 <213> ORGANISM: Artificial Sequence
233 <220> FEATURE:
234 <223> OTHER INFORMATION: Primer for generation of mouse Fkh cDNA
236 <400> SEQUENCE: 5
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239 <210> SEQ ID NO: 6
240 <211> LENGTH: 23
241 <212> TYPE: DNA
242 <213> ORGANISM: Artificial Sequence
244 <220> FEATURE:
245 <223> OTHER INFORMATION: Primer for generation of mouse Fkh cDNA
247 <400> SEQUENCE: 6
248  gcagatctga caagctgtgt ctg                                    23
250 <210> SEQ ID NO: 7
251 <211> LENGTH: 21
252 <212> TYPE: DNA
253 <213> ORGANISM: Artificial Sequence
255 <220> FEATURE:
256 <223> OTHER INFORMATION: Primer for generation of human Fkh cDNA
258 <400> SEQUENCE: 7
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261 <210> SEQ ID NO: 8
262 <211> LENGTH: 21
263 <212> TYPE: DNA
264 <213> ORGANISM: Artificial Sequence
266 <220> FEATURE:
267 <223> OTHER INFORMATION: Primer for generation of human Fkh cDNA
269 <400> SEQUENCE: 8
270  gcaagacagt ggaaacctca c                                      21
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RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 07/25/2002
PATENT APPLICATION: US/09/647,340A   TIME: 08:40:22

Input Set : **A:\501d4.app**
Output Set: **N:\CRF3\07252002\I647340A.raw**

<u>Please Note:</u>
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:13; N Pos. 3,6,9,12,15
Seq#:14; N Pos. 1,7,10,13,16,19